where:

A_u=Absorbance of sample solution;
P_s=Potency of working standard solution in micrograms, per milliliter;
A_s=Absorbance of working standard solution;
W_u=Milligrams of sample per milliliter of sample solution;
m=Percent moisture in sample.

(iii) *High-pressure liquid chromatographic assay.* Proceed as directed in §436.337 of this chapter, preparing the sample as described in paragraph (e)(3)(i) of that section.

(2) [Reserved]

(3) *Moisture.* Proceed as directed in §436.201 of this chapter.

(4) *pH.* Proceed as directed in §436.202 of this chapter, using an aqueous solution containing 10 milligrams per milliliter.

(5) *Cephalexin content.* Proceed as directed in §436.337 of this chapter.

(6) *Identity.* Proceed as directed in §436.211 of this chapter, using the 1 percent potassium bromide disc prepared as described in paragraph (b)(1) of that section.

(7) *Crystallinity.* Proceed as directed in §436.203(a) of this chapter.

[40 FR 26270, June 23, 1975, as amended at 45 FR 16474, Mar. 14, 1980; 46 FR 25608, May 8, 1981; 48 FR 51293, Nov. 8, 1983; 49 FR 47485, Dec. 5, 1984; 50 FR 19919, May 13, 1985]

§442.40a Sterile cephradine.

(a) *Requirements for certification*—(1) *Standards of identity, strength, quality, and purity.* Cephradine is 7-[D-2 - amino -2- (1,4 - cyclohexadien - 1 -yl) acetamido] - 3 - methyl - 8 - oxo - 5-thia - 1- azabicyclo[4.2.0]oct -2 - ene-2-carboxylic acid. It is so purified and dried that:

(i) Its potency is not less than 900 and not more than 1,050 micrograms of cephradine per milligram on the anhydrous basis. If it is packaged for dispensing, its cephradine content is satisfactory if it is not less than 90 percent and not more than 115 percent of the number of milligrams of cephradine that it is represented to contain.

(ii) It is sterile.

(iii) It is nonpyrogenic.

(iv) [Reserved]

(v) Its moisture content is not more than 6.0 percent.

(vi) Its pH in an aqueous solution containing 10 milligrams per milliliter is not less than 3.5 and not more than 6.0.

(vii) Its cephalexin content is not more than 5 percent on an anhydrous basis.

(viii) It passes the identity test.

(ix) It is crystalline.

(2) *Labeling.* It shall be labeled in accordance with the requirements of §432.5 of this chapter.

(3) *Requests for certification; samples.* In addition to complying with the requirements of §431.1 of this chapter, each such request shall contain:

(i) Results of tests and assays on the batch for potency, sterility, pyrogens, moisture, pH, cephalexin content, identity, and crystallinity.

(ii) Samples required:

(*a*) If the batch is packaged for repacking or for manufacturing use:

(*1*) For all tests except sterility: 10 packages, each containing approximately 500 milligrams.

(*2*) For sterility testing: 1 package containing approximately 6 grams of a composite sample.

(*b*) If the batch is packaged for dispensing:

(*1*) For all tests except sterility: A minimum of 10 immediate containers.

(*2*) For sterility testing: 20 immediate containers, collected at regular intervals throughout each filling operation.

(b) *Tests and methods of assay*—(1) *Potency.* Use any of the following methods; however, the results obtained from the microbiological agar diffusion assay shall be conclusive.

(i) *Microbiological agar diffusion assay.* Proceed as directed in §436.105 of this chapter, preparing the sample for assay as follows: Dissolve an accurately weighed sample in sufficient 1 percent potassium phosphate buffer, pH 6.0 (solution 1), to give a stock solution containing 1.0 milligram of cephradine per milliliter (estimated); also, if it is packaged for dispensing, reconstitute the sample as directed in the labeling, except use distilled water in lieu of reconstituting fluid. Then using a suitable hypodermic needle and syringe, remove an accurately measured representative portion from each container. Dilute with solution 1 to give a

stock solution of convenient concentration. Further dilute an aliquot of the stock solution with solution 1 to the reference concentration of 10 micrograms of cephradine per milliliter (estimated).

(ii) *Hydroxylamine colorimetric assay*. Proceed as directed in §442.40(b)(1)(ii). If packaged for dispensing, reconstitute the sample as directed in the labeling using distilled water instead of the reconstituting fluid. Further dilute an aliquot of this solution with distilled water to 1 milligram of cephradine per milliliter (estimated).

(iii) *High-pressure liquid chromatographic assay*. Proceed as directed in §436.337 of this chapter.

(2) *Sterility*. Proceed as directed in §436.20 of this chapter, using the method described in paragraph (e)(1) of that section.

(3) *Pyrogens.* Proceed as directed in §436.32(g) of this chapter, using a solution containing 80 milligrams of cephradine per milliliter.

(4) [Reserved]

(5) *Moisture.* Proceed as directed in §436.201 of this chapter.

(6) *pH*. Proceed as directed in §436.202 of this chapter, using an aqueous solution containing 10 milligrams per milliliter.

(7) *Cephalexin content.* Proceed as directed in §442.40(b)(5).

(8) *Identity*. Proceed as directed in §436.211 of this chapter, using the 1 percent potassium bromide disc prepared as described in paragraph (b)(1) of that section.

(9) *Crystallinity*. Proceed as directed in §436.203(a) of this chapter.

[40 FR 51626, Nov. 6, 1975, as amended at 43 FR 14646, Apr. 7, 1978; 49 FR 47485, Dec. 5, 1984; 50 FR 19919, May 13, 1985]

§442.41 Cephradine dihydrate.

(a) *Requirements for certification*—(1) *Standards of identity, strength, quality, and purity*. Cephradine dihydrate is the dihydrate form of (6*R*,7*R*)-7-[(*R*)-2-amino-2-(1,4-cyclohexadien-1-yl)acetamido]-3-methyl-8-oxo-5-thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid. It is so purified and dried that:

(i) Its potency is not less than 900 micrograms and not more than 1,050 micrograms of cephradine per milligram on an anhydrous basis.

(ii) [Reserved]

(iii) Its moisture content is not less than 8.5 percent and not more than 10.5 percent.

(iv) Its pH in an aqueous solution containing 10 milligrams per milliliter is not less than 3.5 and not more than 6.0.

(v) Its cephalexin content is not more than 5 percent on an anhydrous basis.

(vi) It passes the identity test.

(vii) It is crystalline.

(2) *Labeling.* It shall be labeled in accordance with the requirements of §432.5 of this chapter.

(3) *Requests for certification; samples.* In addition to complying with the requirements of §431.1 of this chapter, each such request shall contain:

(i) Results of tests and assays on the batch for potency, moisture, pH, cephalexin content, identity, and crystallinity.

(ii) Samples required: 10 packages, each containing approximately 500 milligrams.

(b) *Tests and methods of assay*—(1) *Potency*. Use any of the following methods; however, the results obtained from the hydroxylamine colorimetric assay shall be conclusive.

(i) *Microbiological agar diffusion assay*. Proceed as directed in §436.105 of this chapter, preparing the sample for assay as follows: Dissolve an accurately weighed sample in sufficient 1 percent potassium phosphate buffer, pH 6.0 (solution 1), to obtain a stock solution of convenient concentration. Further dilute an aliquot of the stock solution with solution 1 to the reference concentration of 10.0 micrograms of cephradine per milliliter (estimated).

(ii) *Hydroxylamine colorimetric assay for cephradine.* Proceed as directed in §442.40(b)(1)(ii).

(iii) *High-pressure liquid chromatographic assay*. Proceed as directed in §436.337 of this chapter, preparing the sample as described in paragraph (e)(3)(i) of that section.

(2) [Reserved]

(3) *Moisture.* Proceed as directed in §436.201 of thichapter.

(4) *pH.* Proceed as directed in §436.202 of this chapter, using an aqueous solution containing 10 milligrams per milliliter.